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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,170	04/06/2001	Shuhei Iizuka	108340	4382

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EXAMINER

KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/827,170

Applicant(s)

IIZUKA, SHUHEI

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/8/2004 & 4/23/2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 11-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

New claims 11 and 13-26 broadly define forming a tire reinforcing member and incorporating it into a green tire – there is however now no limitation on the location for this reinforcing member. The original disclosure however does not seem to ever define or describe the reinforcing member except in the context of a location in side surface areas of the tire. This new broad disclosure of forming the tire reinforcing member, which is now inclusive of locations other than the side surface area of a tire, including for example the tread of the tire, is not considered to have been described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter to define the invention in this manner and to this scope.

New claim 12 defines that the carrier supports a bead filler rubber thereon and the annular laminated body is applied along one side of the bead filler rubber. It however is not seen where the original disclosure describes that the carrier supports the bead filler rubber for application of the annular laminated body along one side thereof.

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As such, this is not considered to have been described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, i.e. it is considered to be new matter. While it is noted that there is description of forming the bead filler from the wound ribbon on the carrier (e.g. fig. 6), there is no description of forming the figs. 7-8 structure (to which claim 12 seems directed) with the adjacent bead filler being supported on the carrier – the only mention of the carrier for forming these configurations only refers to forming the “annular laminated body 30”.

3. Claims 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber taken in view of GB 2134439 to Holroyd et al. (newly cited).

JP '506 discloses forming a tire having a tire reinforcing member, this reinforcing member formed by spirally winding a ribbon of rubber with embedded short fibers - note esp. figs. 1-2 as well as the abstract and machine translation of this reference. As to preforming the layer on a carrier, JP '506 illustrates in situ formation but also suggests that preforming can be done (note paragraph 43 of machine translation). Although mention is not made of a rotating carrier, it would seem that some form of rotating carrier would have been necessary or in any event certainly obvious to preform the spirally wound layer since a layer cannot be wound in mid air but must be formed on some form of support. To orient this carrier horizontally and thus to rotate about a vertical axis as well as to extrude directly onto the carrier, the extruder nozzle moving radially, would have been obvious in light of the guidance provided by GB '439. In

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particular, this reference is also directed to preforming tire components for the side areas of a tire by spiral winding and suggests that the carrier be horizontal and rotated about a vertical axis with an extruder whose nozzle moves radially – note esp. fig. 2 and page 2, lines 67-84. Guided by this very analogous teaching, it is considered that the ordinary artisan would have found it to have been obvious to preform the JP '506 reinforcing layer using a carrier/nozzle arrangement as claimed, such being considered to render claim 11 obvious. As to claim 13, the fibers in JP '506 are oriented at 0 to 30 degrees to the hoop or circumferential direction, the suggestion of a 0 degree orientation teaching a circumferential orientation as claimed.

4. Claims 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber taken in view of GB 2134439 to Holroyd et al. as applied to claim 11 above, and further in view of JP 10-315717.

As to claim 12, JP '506 only illustrates the reinforcing layer being adhered to the carcass in the exemplary embodiments. However, paragraph 52 of the reference indicates that embodiments were contemplated where the reinforcing layer is axially between the main 7a and turnup 7b portions of the carcass, in which case the reinforcing layer would be expected to be adjacent a side of the bead filler rubber. Further, and in any event, JP '717 is also directed to short fiber reinforced reinforcing layers in the sidewall of a tire and in particular indicates an understanding that the layer can be applied in a variety of orientations relative to the carcass and filler, including positions where the reinforcing layer lies adjacent or along the filler (note the figures). It thus is considered that JP '506 either suggests a location as claimed or in any event, it

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would have been obvious to position the reinforcing layer either inside or outside the carcass particularly in light of the above noted teachings of JP '717 indicating an art recognized suitability for either location.

As to claim 15, JP '506 describes advantages for adopting oriented short fibers (at 0-30 degrees; see paragraphs 19-22) although the reference does seem to indicate an appreciation that not all the fibers may be oriented as desired (note paragraph 28 indicating that up to 10% of the fibers may not be oriented as desired). This would thus arguably be inclusive of reinforcing layers that include some randomly oriented fibers. Further, it also is considered that the artisan would have found it obvious to utilize random fibers if the reinforcing effect of the fibers were desired without the additional advantages of the orientation. In other words, although the art would indicate that random fibers are not preferred, applicant has not provided any indication that the use of random fibers provides any but the expected results. Note also that JP '717 shows the art recognized suitability of various fiber orientations (e.g. claim 5: $45^{\circ} \pm 15^{\circ}$; claim 6: $90^{\circ} \pm 10^{\circ}$) for similar fiber reinforced layers in a tire.

5. Claims 14, 16, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber taken in view of GB 2134439 to Holroyd et al. (for claims 14, 16 and 23) or further in view of JP 10-315717 (for claim 24) as applied above, and further in view of Laurent (US 4,963,207) and/or EP 968814 to Bridgestone.

JP '506 suggests extruding the ribbon 12 (paragraph 41) conventionally but provides no further details. The type of extruder used would thus have been an obvious

selection for the artisan from among the well known conventional types, it being considered that both claimed types of extruders are extremely well known and conventional per se. Further, in light of Laurent as well as EP '814, it is apparent that the ordinary artisan in this art appreciates that certain advantages exist for volumetric type extruders (apparently the same as the claimed positive displacement type) – the particular choice however would have been well within the skill of the artisan to make, the advantageous and disadvantageous attributes of each being considered to have been well understood by the ordinary artisan and leading to only the expected results.

6. Claims 17-20, 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber taken in view of Laurent (US 4,963,207) and/or EP 968814 to Bridgestone.

JP '506 discloses forming a green tire on a drum having an apparent horizontal axis (as typical – e.g. note fig. 3A), the tire further having a tire reinforcing member, this reinforcing member formed by spirally winding an extruded ribbon 12 of rubber with embedded short fibers on the rotating green tire - note esp. fig. 2 and paragraphs 38-41 in the document and machine translation thereof. Specifics of the location/movement of the extruder nozzle relative to the green tire are however not given. Laurent and EP '814 are also directed to in situ formation of tire components by winding extruded strips and in particular, each suggests location of the extrusion nozzle immediately adjacent the winding surface with movement capability along the winding surface, Laurent indicating that this provides advantages including the great precision as well as an ability to extrude a wider variety of materials due to reduced stress in such a laying

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process (e.g. col. 4, lines 3+) while EP '814 indicates that this provides high accuracy and high efficiency. To provide the extruder nozzle directly adjacent the tire to form/wind the ribbon 12 in JP '506 would therefore have been obvious. Such therefore is considered to render the claim 17 method obvious.

As to claim 18, EP '814 teaches/renderers obvious a roller die as claimed (e.g. paragraph [0050]. As to claim 19, the fibers in JP '506 are oriented at 0 to 30 degrees to the hoop or circumferential direction, the suggestion of a 0 degree orientation teaching a circumferential orientation as claimed. As to claims 20, 22, and 25, JP '506 suggests extruding the ribbon 12 (paragraph 41) conventionally but provides no further details. The type of extruder used would thus have been an obvious selection for the artisan from among the well known conventional types, it being considered that both claimed types of extruders are extremely well known and conventional per se. Further, in light of Laurent as well as EP '814, it is apparent that the ordinary artisan in this art appreciates that certain advantages exist for volumetric type extruders (apparently the same as the claimed positive displacement type) – the particular choice however would have been well within the skill of the artisan to make, the advantageous and disadvantageous attributes of each being considered to have been well understood by the ordinary artisan and leading to only the expected results.

7. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber taken in view of Laurent (US 4,963,207) and/or EP 968814 to Bridgestone as applied above, and further in view of JP 10-315717.

As to claim 21, JP '506 describes advantages for adopting oriented short fibers (at 0-30 degrees; see paragraphs 19-22) although the reference does seem to indicate an appreciation that not all the fibers may be oriented as desired (note paragraph 28 indicating that up to 10% of the fibers may not be oriented as desired). This would thus arguably be inclusive of reinforcing layers that include some randomly oriented fibers. Further, it also is considered that the artisan would have found it obvious to utilize random fibers if the reinforcing effect of the fibers were desired without the additional advantages of the orientation. In other words, although the art would indicate that random fibers are not preferred, applicant has not provided any indication that the use of random fibers provides any but the expected results. Note also that JP '717 shows the art recognized suitability of various fiber orientations (e.g. claim 5: $45^{\circ} \pm 15^{\circ}$; claim 6: $90^{\circ} \pm 10^{\circ}$) for similar fiber reinforced layers in tires. As to claim 26, as above, the particular extruder type would have been readily and routinely selected by the artisan for only the expected results, screw type extruders being of course extremely well known and conventional per se.

8. Applicant's arguments filed 1/8/2004 and 4/23/2004 have been fully considered but they are not persuasive in light of the new grounds of rejection presented above as necessitated by the amendment.

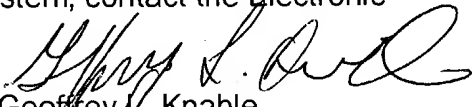
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on 571-272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
July 3, 2004